Mathematics
Grade-Level Expectations: Grade 3

Number and Number Relations

1. Model, read, and write place value in word, standard, and expanded form for numbers through 9999 (N-1-E)
2. Read, write, compare, and order whole numbers through 9999 using symbols (i.e., <, =, >) and models (N-1-E) (N-3-E)
3. Use region and set models and symbols to represent, estimate, read, write, and show understanding of fractions through tenths (N-1-E) (N-2-E)
4. Use the concepts of associative and commutative properties of multiplication to simplify computations (N-4-E) (N-7-E)
5. Recognize and model multiplication as a rectangular array or as repeated addition (N-4-E) (N-7-E)
6. Recognize and model division as separating quantities into equal subsets (fair shares) or as repeated subtraction (N-4-E) (N-7-E)
7. Recognize and apply multiplication and division as inverse operations (N-4-E)
8. Recognize, select, connect, and use operations, operational words, and symbols (i.e., +, –, x, ÷) to solve real-life situations (N-5-E) (N-6-E) (N-9-E)
9. Know basic multiplication and division facts [0s, 1s, 2s, 5s, 9s, and turn-arounds (commutative facts), including multiplying by 10s] (N-6-E) (N-4-E)
10. Calculate the value of a combination of bills and coins and make change up to $5.00 (N-6-E) (M-1-E) (M-5-E)
11. Add and subtract numbers of 3 digits or less (N-6-E) (N-7-E)
12. Round to the nearest 1000 and identify situations in which such rounding is appropriate (N-7-E) (N-9-E)
13. Determine when and how to estimate, and when and how to use mental math, calculators, or paper/pencil strategies to solve addition and subtraction problems (N-8-E) (N-9-E)

Algebra

14. Use the symbols <, >, and ≠ to express inequalities (A-1-E)
15. Use objects, pictures, numbers, symbols, and words to represent multiplication and division problem situations (A-1-E)
16. Use number sentences to represent real-life problems involving multiplication and division (A-1-E) (N-4-E)
17. Analyze and describe situations where proportional trades or correspondences are required (e.g., trade 2 pieces of candy for 3 pieces of gum, make equivalent actions on pans to keep balance scale in equilibrium, plan for the number of pieces of bread needed for *x* sandwiches) (A-1-E)
18. Use letters as variables in mathematical statements that represent real-life problems (e.g., 2 x *n* = 8) (A-2-E)

Measurement

19. Measure length to the nearest yard, meter, and half-inch (M-1-E)
20. Measure capacity using pints and gallons (M-1-E)
21. Measure weight using grams and ounces (M-1-E)
22. Find the perimeter of a geometric shape given the length of its sides (M-1-E)
23. Find the area in square units of a given rectangle (including squares) drawn on a grid or by covering the region with square tiles (M-1-E)
24. Find elapsed time involving hours and minutes, without regrouping, and tell time to the nearest minute (M-1-E) (M-5-E)

25. Select and use the appropriate standard units of measure, abbreviations, and tools to measure length and perimeter (i.e., in., cm, ft., yd., m), area (square inch, square centimeter), capacity (i.e., cup, pint, quart, gallon, liter), and weight/mass (i.e., oz., lb., g, kg, ton) (M-2-E)
26. Order a set of measures within the **same** system (M-3-E)
27. Compare U.S. and metric measurements using approximate reference points without using conversions (e.g., a meter is longer than a yard) (M-3-E) (M-4-E)
28. Estimate length, weight/mass, and capacity (M-3-E)

Geometry

29. Classify and describe 2- and 3-dimensional objects according to given attributes (triangle vs. quadrilateral, parallelogram vs. prism) (G-2-E) (G-1-E) (G-4-E)
30. Apply concepts of congruence, similarity, and symmetry in real-life situations (G-2-E)
31. Draw or reconstruct figures from visual memory or verbal descriptions (G-3-E)
32. Recognize and execute specified flips, turns, and slides of geometric figures using manipulatives and correct terminology (including *clockwise* and *counterclockwise*) (G-3-E)
33. Construct and draw rectangles (including squares) with given dimensions (e.g., grid paper, square tiles) (G-4-E)
34. Fold a 2-dimensional net into a 3-dimensional object (G-4-E) (G-1-E)
35. Identify, give properties of, and distinguish among points, lines, line segments, planes, rays, and angles (G-5-E)
36. Identify and draw segments, rays, and lines that are perpendicular, parallel, and intersecting (G-5-E)
37. Identify, describe, and draw intersecting, horizontal, vertical, parallel, diagonal, and perpendicular lines, rays, and right angles in the real world (G-5-E) (G-6-E)
38. Find the length of a path (that does not include diagonals) between two points on a grid (G-6-E)

Data Analysis, Probability, and Discrete Math

39. Identify categories and sort objects based on qualitative (categorical) and quantitative (numerical) characteristics (D-1-E)
40. Read, describe, and organize a two-circle Venn diagram (D-1-E) (D-2-E)
41. Explain the word *average* and use it appropriately in discussing what is “typical” of a data set (D-1-E)
42. Match a data set to a graph, table, or chart and vice versa (D-2-E)
43. Represent and solve problems using data from a variety of sources (e.g., tables, graphs, maps, advertisements) (D-3-E)
44. Discuss chance situations in terms of *certain/impossible* and *equally likely* (D-5-E)
45. Use manipulatives to discuss the probability of an event (e.g., number cubes, spinners to determine what is most likely or least likely) (D-5-E)

Patterns, Relations, and Functions

46. Identify and model even and odd numbers with objects, pictures, and words (P-1-E)
47. Find patterns to complete tables, state the rule governing the shift between successive terms, and continue the pattern (including growing patterns) (P-1-E) (P-2-E)